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FACSIMILE COVER LETTER

To:	Commissioner of Patents Central Fax Center
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From:	Thomas F. Presson
Date:	July 25, 2008
Re:	U.S. Patent Application Serial No. 10/085,647 Sony Ref.: S02P0145US00 Sony IPD: HS Our Ref.: 450100-03764
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The Group may be excluded in compliance with a stream. The Group includes Time code. It also includes Video Object Plane (hereinafter called VOP). The VOP corresponds to a frame of picture in the video images. Here, it includes VOP coding type and an order of reproduction. The information, "vop_coding_type (2)" described in the VOP indicates I-picture, P-picture or B-picture. The information, "modulo_time_base" described in the VOP indicates how many seconds it takes for a picture to occur after I-picture. The information, "vop_time_increment (1~16)" described in the VOP indicates how order the picture should occur, namely, the order of reproduction thereof. The VOP includes the bitstreams each indicating internal information of VOP following the above information.

Many researches for transporting the bitstreams each having the above syntax on the Internet and/or broadcasting waves have been done.

MPEG4 stream fails to define transport stream (hereinafter called TS) and packetized elementary stream (hereinafter called PES), which are available in the transport thereof. Thus, although a user can freely set TS and PES, he or she is required to alter their stream structure according to the transport protocol thereof.

In ISO 13818-1/FDAM7 (ISO/IEC JTC1/SC29/WG11 N3050), standardisation in case of using MPEG2-TS goes on whereas implementing method, namely, translation method that the MPEG4 stream is translated into an MPEG2 packetized elementary stream (hereinafter called MPEG2-PES) packet has not been determined.

Alternatively, MPEG4 Visual Object Sequence (ISO/IEC 14496-2)

packetizing a coded bitstream of digital data in accordance with a transport protocol is presented. The method comprises a time information generating step of generating time information in accordance with a specification of the transport protocol and a header generating step of generating a header that includes the time information generated during the time information generating step. The method further comprises a packet generating step of generating a packet with adding the header generated during the header generating step into every predetermined unit of bitstream.

According to the present invention, when packetizing the coded bitstream of digital data in accordance with the transport protocol, for example, translating MPEG4 stream into MPEG2-PES packet, the time information is first generated in accordance with the specification of the transport protocol.

The header is illustratively detected from the coded bitstream of digital data. The header analyzing unit analyzes the header thus detected. This permits predetermined information to be obtained therefrom. Using such the predetermined information allows the time information in accordance with the specification of transport protocol to be generated.

Alternatively, a bit rate of the coded bitstream of digital data is illustratively detected. The time information in accordance with the specification of transport protocol is generated using such the detected bit rate. Using a predetermined bitstream other than the coded bitstream of digital data, for example, the time information contained in a stream of the MPEG2-PES packet form also allows the time information in

indicating an occupancy of the data to be stored in the buffer unit until receiver side starts decoding from outside. The packetizer 102C generates the time information such as ESCR, DTS, and PTS using the information, vbv_occupancy and other information, bit_rate, calculated according to a frame rate obtained from the information obtained by analyzing the headers detected from MPEG4 stream STM1, and the information, vbv_occupancy. It also inserts the time information into the PES header.

The multiplexer 103 receives and sections the information, MPEG4 video_descriptor and multiplexes the stream STM2 and the MPEG4 video_descriptor thus sectioned to indicate that data contained in the stream STM2, which the multiplexer 103 receives, is MPEG4 stream.

The packetizer 102C further comprises a bit rate calculating unit 119 for calculating a bit rate of the stream STM1. The unit 119 receives the input stream STM1 through the header detecting unit 111. The unit 119 also receives the information detected by the header buffer unit 112.

The unit 119 calculates a frame rate according to the information, vop_time_increment_resolution and fixed_vop_time_increment, detected by the header buffer unit 112 as follws:

frame rate [Hz] = vop_time_increment_resolution / fixed_vop_time_increment

The unit 119 also allows a number of AUs corresponding to the stream STM1 accessible for one second based on the frame rate thus calculated to be accessed. It counts an amount of the data, a number of